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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

BUEKER, RICHARD R

ART UNIT PAPER NUMBER

1763

DATE MAILED: 12/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/700,120

Applicant(s)

PARENT, DONALD G.

Examiner

Richard Bueker

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/22/04</u> | 6) <input type="checkbox"/> Other: ____ |

Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1, lines 8 and 12, claim 5, line 1 and claim 8, line 1, the phrase "the components" lacks proper antecedent basis because the claim does not earlier refer to plural components. Also, in claim 8, line 1, the phrase "the components handler" lacks proper antecedent basis because claim 1 earlier recites "the component handler". In claim 7, line 1, it appears that "partial cooling" should be changed to "partial coating".

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 6 and 7 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Statnikov (5,741,405) (see Figs. 1-3), who discloses a system for coating a component including a vacuum chamber, at least one PVD station (sputter coating station) as recited in claim 1, at least one cooling station as recited in claim 1, and a component handler designed to move the component proximate the PVD station and then the cooling station. The handler is

programmed to "automatically bring the components proximate a physical vapor deposition station until the components are partially coated to a predetermined thickness and then proximate a cooling station before thermal damage can occur to the components and until they are sufficiently cooled and to then switch between physical vapor deposition stations and cooling stations until the desired coating thickness is obtained". Regarding the Fig. 1 embodiment of Statnikov, it is noted that each PVD station is also a cooling station, and as such, each of these PVD/cooling stations reads on both the PVD stations recited in applicant's claims and the cooling stations recited in applicant's claims. Statnikov's Fig. 1 also includes stations 37, 38 and 39 for cooling without PVD. Regarding claims 2 and 3, the arrangement of stations shown in Statnikov's Fig. 1 can be described both as "arranged circumferentially" and "arranged circumferentially". Regarding claims 6 and 7, see Col. 1, lines 58-62 of Statnikov.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Statnikov in view of Hughes (5,181,556), who teaches (col. 1, line 53 to col. 2, line 26) that a gas cooling station with a heat sink in a subchamber is preferable to a solid contact cooling station, and it would have been obvious to one skilled in the art to substitute such a gas cooling station of the type taught by Hughes for a cooling station such as station 38 of Fig. 1 of Statnikov or the cooling station of Fig. 2 of Statnikov.

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Statnikov taken in view of Dee (4,849,250) and Bonyhard (5,026,470). Dee (Figs. 4 and 5, col. 2, lines 21-25 and col. 3, lines 1-2) teaches that a tray can be use as a substrate holder for a plurality of substrates in a rotary sputtering apparatus of the type taught by

Statnikov. It would have been obvious to modify the apparatus of Statnikov's Fig. 3 to adapt it for use with a plural substrate tray of the type taught by Dee for the desirable purpose of increasing productivity of the apparatus by increasing through-put.

Bonyhard (Figs. 4 and 5, col. 2, lines 59-64 and col. 3, lines 38-40) is cited to show that a plural substrate tray can be provided with cooling means as required by Statnikov's Fig. 3 embodiment.

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Statnikov taken in view of Gesche (5,538,610) (Figs. 1-4) and Hedgeoth (4,894,133) (Figs. 1-2) who both teach the use of a plural substrate tray to sputter coat plural substrates simultaneously to improve through-put of a coating apparatus. It would have been obvious to modify the apparatus of Statnikov's Fig. 1 or Fig. 3 to adapt it for use with a plural substrate tray of the type taught by Gesche and Hedgeoth for the desirable purpose of increasing productivity of the apparatus by increasing through-put.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Statnikov taken in view of Gesche (5,538,610) (Figs. 1-4) and Hedgeoth (4,894,133) and taken in further view of Hughes (5,181,556), who teaches (col. 1, line 53 to col. 2, line 26) that a gas cooling station with a heat sink in a subchamber is preferable to a solid contact cooling station. It would have been obvious to one skilled in the art to provide a gas cooling station of the type taught by Hughes for cooling a plural substrate tray of the type taught by Gesche and Hedgeoth, because Gesche and Hedgeoth teach that their plural substrate processing apparatus is applicable to all conventional processing steps, which includes cooling as taught by Statnikov.

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Claim 5 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Bueker whose telephone number is (571) 272-1431. The examiner can normally be reached on 9 AM - 5:30 PM, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Mills can be reached on (571) 272-1439. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Richard Bueker

Richard Bueker
Primary Examiner
Art Unit 1763